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ART. IV.—*A Fossil Casuarina.*

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The records of the genus *Casuarina*, one of the characteristic genera of Australian vegetation, occurring as fossils are very sparse and they are not entirely free from doubt. Deane (1904), speaking of the Sentinel Rock specimen, says "probably *Casuarina*." The identification is exceedingly doubtful. Chapman (1914) matches an impression in some newer basalt at Yandoit with that made by the end of a cone of *Casuarina stricta*. It may be referable to *Casuarina* but the evidence is very slender.

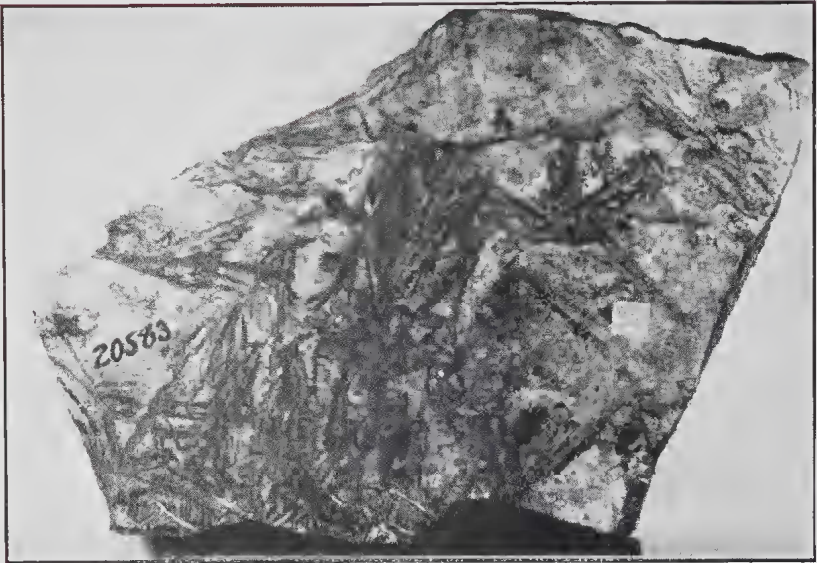
Paterson (1935) recognizes a *Casuarina* from some longitudinally ridged "branchlets," 4 mm. wide, with internodes 2 mm. long.

Engler and Prantl (1889) remark that the fossils from the Eocene in Europe referred to *Casuarina* are insufficiently established, and are possibly referable to *Ephedra*.

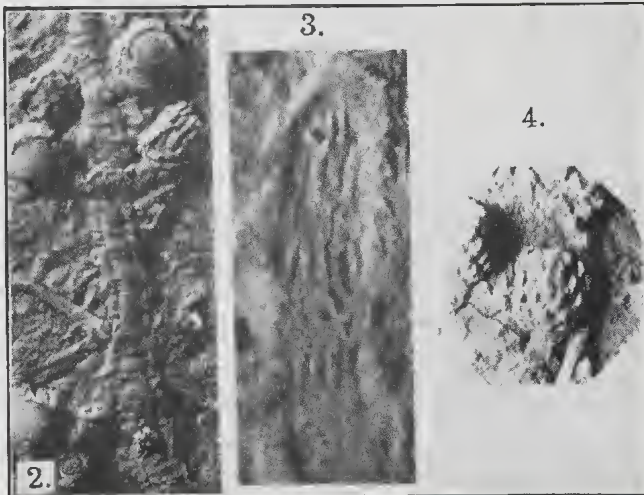
Very well preserved wood remains of *Casuarina* have been found under the newer basalt, and have been discussed by Chapman (1905) and Armytage (1910).

Excellent impressions of a *Casuarina* have been found in a siliceous sandstone at Limestone Reserve, Parish of Yallock. The beds in which the impressions occur are possibly of Miocene age. They overlie Lignites which are Oligocene. The impressions are beautifully preserved, even the tips of the branchlets showing up quite clearly on plasticene casts. The branchlets are finely ridged, 1.5 mm. broad and the rudimentary leaves, which are so characteristic a feature of *Casuarina*, are acute, 10 to 12, possibly only 10, in a whorl. The branches show the scars where rudimentary leaves originally occurred. The cones are 7-8 mm. long, subglobose to subcylindrical, truncate, tapering towards the ends. The valves are obtuse, very prominent and in several rows, but the keel is obscure. There is no sign of any male inflorescence nor of seed.

Both on account of the number of teeth and the size of the cones the specimen is allied to the Victorian species *Casuarina glauca* Sieb., which at present occurs in the north-west of the State, and also to *C. Cunninghamiana* Miq. which is quite commonly found along river banks in the eastern portion of New South Wales.



1.



A Fossil Casuarina.

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Explanation of Plate I.

1. Photograph of original impressions, slightly less than $\frac{1}{3}$ nat. size.
2. Photograph of a plasticene cast of a branch, approx. nat size.
3. Photograph of plasticene cast of the end of a branchlet, $\times 6$.
4. Photograph of a plasticene cast of a cone, slightly enlarged.